

## **OHIO DNR & CUYAHOGA VALLEY N.P. : A PARTNERING SUCCESS STORY**

**Mark C. Smith**, Ohio Department of Natural Resources, Division of Mineral Resources Management, Abandoned Mined Lands Section, 3601 Newgarden Road, Salem, Ohio 44460  
(330) 222-1527

**Kim Norley**, ASLA, National Park Service, Cuyahoga Valley National Park, 15610 Vaughn Road, Brecksville, Ohio 44141, (440) 546-5974

### **ABSTRACT**

Partnering between two diverse government agencies has produced the reclamation of three devastated sites that could not have been accomplished by either agency acting alone. The Cuyahoga Valley National Park (CVNP) preserves 33,000 acres along the Cuyahoga River between Cleveland and Akron, Ohio. Several locations within the Park had been previously disturbed through use as soil and fill material for a ski resort as well as sand and gravel extraction. All of these sites exhibited the same conditions: sparse vegetation and severe erosive soil loss with resultant downstream sedimentation. In 1992 the CVNP approached the Ohio Department of Natural Resources, Division of Mineral Resources Management (ODNR-MRM), about the feasibility of using monies from the State Industrial Minerals AML account to reclaim the sites. Several factors militated against the reclamation of these sites. The IM-AML account did not contain enough money to accomplish the work. Federal National Park Service (NPS) procurement practices required the use of Davis Bacon wage rates, which would place a heavy monetary burden on the State funds. Finally, ODNR had recently undergone personnel cutbacks and lacked the engineering support needed to design the reclamation projects. An agreement was developed between CVNP and ODNR. Parks personnel provided design services to complete the construction plans and specifications with oversight performed by an ODNR engineer. The projects were bid out using the lower State prevailing wage rates. A funding match was provided by the NPS. ODNR provided inspection services and funding to reclaim two sites while CVNP used the 'match' monies to inspect and reclaim a third site. Remaining 'match' monies will be used to perform an extensive stream-cleaning program. The successful completion of these projects has increased the possibilities for future work in the Park.

### **INTRODUCTION**

Many advantages can be derived from 'partnering' on a reclamation project. These advantages can include, but are not necessarily limited to, substantial cost savings, additional sources of funding, more timely implementation of reclamation work, a more accurate and more thoroughly prepared design, more thorough inspection coverage and high public visibility. These advantages accrue from the 'hybrid vigor' that can occur when two or more seemingly disparate entities combine resources to produce the final reclamation product.

Many factors can provide obstacles to the successful implementation and completion of an abandoned mine reclamation project. One of the most troubling obstacles can be the institutional barriers that exist within bureaucracies whenever a proposed project falls outside the purview of 'standard operating procedure'. Other obstacles can be caused by shortages of funds, manpower and time. These obstacles to reclamation can be further compounded when two or more government institutions attempt a venture into partnering. Obstacles that occur in a

'partnering' venture arise from issues such as differing philosophies regarding design approach and project supervision.

This report will discuss a specific 'partnering' venture between the Ohio Department of Natural Resources, Division of Mineral Resources Management and the National Park Service, Cuyahoga Valley National Park that has produced the successful reclamation of several abandoned mine sites. Finally, some strategies that were used to overcome obstacles will be discussed.

## **CUYAHOGA VALLEY NATIONAL PARK OVERVIEW/HISTORY<sup>1</sup>**

The Cuyahoga River Valley is situated in the glaciated portion of northern Ohio. It is located between the population centers of Cleveland and Akron, to the north and south, respectively. The Cuyahoga, from the Native American 'Ka-ih-ogh-ha', or crooked, River begins 30 miles east of its mouth in Cleveland. Flowing south, it twists and turns in a great 'U' for 90 miles along the base of the escarpment on which the city of Akron lies before turning north to finally empty into Lake Erie. Sculpting by glaciers and the forces of the river has created a diverse landscape of river floodplain, steep and gentle valley walls, tributaries and their ravines, and upland plateaus.

The Cuyahoga River has long attracted people and wildlife. People have lived here for nearly 12,000 years, and they left a legacy of archeological sites throughout the valley. An important transportation route for native peoples, the area was deemed neutral territory by the tribes, so all might travel on it safely from the cold waters of the Great Lakes to the short portage across the divide to the Tuscarawas River that drained into the Ohio River and the warm waters to the south. European explorers and trappers arrived in the 17<sup>th</sup> century. The first European settlement in the valley was the Moravian village of Pilgerruh, located near the confluence of Tinkers Creek and the river. In 1786, the Connecticut Western Reserve set aside 3,500,000 acres for settlement. Ten years later Moses Cleaveland, a land agent for the Connecticut Land Company, arrived to plat out the city that bears his name. The Ohio and Erie Canal opened in 1827 between Cleveland and Akron. It paralleled and was partly watered by the Cuyahoga and replaced the river as the primary transportation artery. The surrounding towns and villages boomed with canal-related industry. By the 1860's, railroads had replaced the canal as the major route for commerce, industry and travel. In the early 1960's unchecked development, including logging and minerals extraction, became a major threat to the valley. Citizens joined forces with state and local governments to save the greenspace and historic features. These efforts coincided with the National Park Service, which was then establishing urban recreation areas as a means of bringing national parks to people living in cities. In 1974, Congress created Cuyahoga Valley National Recreation Area as an urban park of the National Park System. The valley attained National Park status in 2000.

The Cuyahoga Valley National Park preserves 33,000 acres along 22 miles of the 'Crooked River'. The National Park Service manages the park in cooperation with others who own property within its boundaries, including Cleveland Metroparks and Metro Parks, Serving Summit County, both of which administer several units within CVNP. Together they protect the natural landscape and preserve remnants of the human history.

The Park surrounds the Village of Peninsula, which attracts visitors with its history, architecture, shops, galleries, and restaurants. Peninsula is also a popular starting point for recreation in CVNP. The Park also contributes to something greater - the Ohio & Erie Canal

Heritage Corridor. CVNP, in the heart of the corridor, unites Cleveland and Akron, which have active corridor preservation programs. The corridor continues south to Zoar, Ohio. It provides continuity and an expansion of the historic connections of natural resources and industry - the lake, river, canal, and railroad - that made this valley and region prosperous.

Wetlands, forests, fields in various stages of succession, and other habitats enable a surprising diversity of wildlife to thrive. Cool ravines provide microhabitats for hemlock, yellow birch, red-breasted nuthatches, and wildlife commonly found in a more northern climate. Covered by mixed deciduous forest and pockets of evergreens, tree species are abundant. Wildflowers and plant varieties range from spring woodland wildflowers, such as hepaticas and bloodroot, to late summer asters and goldenrod in open areas. Yellow and blue irises, cattails, and the American lotus bloom in wetlands in late spring and early summer.

## **PROGRAM OVERVIEWS**

### **NPS<sup>2</sup>**

The National Park System contains nearly 3,000 sites in 146 parks that are disturbed by previous mineral exploration and development. These sites include 11,000 underground openings, 51 abandoned oil and gas wells, and 33,000 acres of scarred surface area. Resource effects at AML sites include excessive erosion and sedimentation, exotic plant invasion, soil and water contamination, and public safety hazards. The NPS estimates that addressing its priority AML needs would require \$20 to \$40 million. Long-term reclamation costs to deal with all sites could be as high as \$165 million.

The NPS AML program has five objectives: (1) inventory all AML sites, (2) restore degraded natural resources, (3) eliminate safety hazards, (4) protect critical habitat, and (5) preserve and interpret culturally and historically significant resources. To assist in carrying out these objectives, the NPS has entered into agreements with eight states and two federal agencies to conduct site characterizations and aid on-the-ground reclamation.

### **DMRM<sup>3</sup>**

The Ohio Division of Mineral Resources Management administers both a state-funded abandoned mine lands program and a federal AML program to reclaim those areas disturbed by coal and minerals mining operations for which there is no continuing reclamation responsibility by the mine operator. Both of the programs are funded by severance taxes levied on the mining of coal and minerals.

The State AML program, which provided the funding for the CVNP AML projects, is funded by a share of the seven cents per ton of the state coal severance tax and the two cents per ton of the state industrial minerals (sand & gravel) severance tax. The State AML program focuses on reclamation of: lands that cause pollution of the waters of the state; lands that pollute adjacent property; lands which, when reclaimed, can be used by the public for soil, water, forests, wildlife conservation, or public recreation purposes; lands which, when reclaimed, will facilitate the use or improve the enjoyment of public conservation or recreation lands. The State AML program reclaims lands affected prior to 1972. Projects in the State AML program are typically designed by and inspected by the Division of Mineral Resources Management staff.

## **SNOWVILLE RECLAMATION PROJECT**

In 1992 John Sprouse from ODNR worked with Garree Williamson of the NPS to look into the restoration of the Snowville Quarry Site. By May of 1993, ODNR had reached an agreement with NPS to develop the Snowville Project as a State-funded Industrial Mineral Reclamation Project.

The Snowville site was an old sand and gravel quarry dating back to the 1930's. The 24-acre site was also used as a local dump throughout the years until the site became part of the Cuyahoga Valley National Recreation Area over 25 years ago. There was virtually no vegetation around the quarry site's subsoil piles, water impoundment and steep gullies. Soil eroded directly into two tributaries and, ultimately, the Cuyahoga River less than one-half mile away. In 1982, a report by the Corps of Engineers indicated that the Snowville site delivered about 2,900 tons of sediment per year offsite and an additional 3,500 tons onsite<sup>4</sup>. This sediment caused many down stream problems, blocking and flooding roadways and causing frequent road closings and repairs.

Mapping of the site was completed in 1995, but ODNR was not able to move forward with the project due to lack of engineering support. ODNR could provide engineering oversight, but not design services. The Park offered design services to complete the construction plans and specifications.

In 1997 design work was completed and the project was bid in 1998. Shook Brothers Construction Co., Inc. of Berlin Center, Ohio was awarded a contract for \$177,352.00 to perform the reclamation work. The construction was performed through the summer and fall of 1998 and completed by June 1999.

In the spring of 2001 both NPS and ODNR partnered again to plant native tree species, including blight-resistant American chestnut (*C. dentata*) on the reclaimed slopes of the former Snowville Quarry.

## **DOVER RECLAMATION PROJECT**

Upon the successful completion of the Snowville site, the park subsequently asked ODNR for additional help with three other sites, collectively known as the Dover sites. The Dover sites covered about 20 acres in CVNP where topsoil and subsoil were scalped between 1963 and 1972 to provide fill material to increase the elevation of the slopes of an adjacent ski area. The park subsequently purchased the sites, which were highly eroded and contained virtually no vegetation. The erosion-generated sediments from the sites reached a tributary and the Cuyahoga River less than one-third mile downstream. The 1982 Corps of Engineers study estimated that 7,200 tons of sediment per year was delivered into the Cuyahoga from these 20 acres and its neighboring 40 acres<sup>5</sup>.

The ODNR was, once again, interested in working with the Park to reclaim these sites. At the same time economic downturns caused a decline in the state reclamation funds, which caused a resultant reduction in the ODNR engineering staff. This lack of manpower was further aggravated by a decline in state reclamation funds arising from an economic downturn. While NPS was willing to commit matching funds for the project there was no avenue to allow ODNR to use NPS monies and still follow the state procurement process. ODNR would be required to use the federal Davis-Bacon wage rates of approximately \$27.00 per hour versus the Ohio State prevailing wage rate of approximately \$ 14.63 per hour, on average, for a bulldozer operator.

This difference in construction cost would require ODNR to expend more funds than usual to complete the project, making the project economically unfeasible within the parameters of the State-funded AML program. In 2001 ODNR and NPS reached an agreement; ODNR would handle an 11-acre site with NPS developing the plans and specifications using ODNR engineering oversight, and the NPS would handle the 3-acre site using matching funds. ODNR would provide full-time construction inspection with Park personnel filling in as needed. The ODNR inspector, upon consultation with and approval by the Park, issued field orders and change orders.

The final project specifications were as follows:

- 69,300 cubic yards earthwork
- 40 tons Type 'C' rock channel protection
- 386 square yards temporary channel lining
- 80 linear feet PE/PVC culvert
- 1,160 linear feet silt fence
- 50 tons #1 & #2 stone
- Temporary sediment pond installation and removal
- Permanent pond upgrade
- 140 tons gully drains (# 357 stone)
- 8,800 cubic yards approved resoil
- 4,180 cubic yards alternate organic resoil (residential compost)
- 14.1 acres standard revegetation (Switchgrass, Indiangrass, Chewings fescue)
- 14.1 acres maintenance fertilizer

The final project cost estimate was \$200,000.00. This money was 'matched' by the NPS for use in down gradient stream cleaning and channel reconstruction. After bidding, a contract in the amount of \$173,685.00 was awarded to McMillan Construction Co, Inc. of Wellington, Ohio on August 30, 2001 and actual construction commenced on December 3, 2001. Work proceeded at a steady rate with a shutdown between March and May of 2002 resulting from wet weather. The construction work was 'substantially approved' during an inspection conducted jointly by personnel from the construction firm, NPS and ODNR on June 27, 2002. The final project construction cost was \$180,833.80. The extra costs were derived primarily from the need for more # 357 stone for the gully drains and #1 & #2 stone to stabilize the access/staging area for the alternate organic resoil. Maintenance work, including removal of the temporary sediment pond and removal of the access road, will be completed one year from the substantial completion date.

## **FUTURE RECLAMATION WORK**

The restoration of a remaining severely eroded site, called Site #3, is presently in the planning stages. Both ODNR and NPS are pursuing funding sources and design options for the reclamation of this and other sites. It is hoped that the record of successful projects undertaken in this partnership will enhance the probability of project implementation on this site.

## **ADVANTAGES OF PARTNERING**

In the case of the Snowville and Dover Projects one of the partners, NPS, was also the principal landowner. Parks personnel had great familiarity with the project sites. They knew the sites' histories as well as the nature of the problems. They were within a five minute drive of all the sites, which enabled a much more thorough preliminary design as well as timely inspection back-up, when needed. The plans and specifications created by the NPS incorporated some novel ideas for an ODNR project: revegetation with native plant species (Indiangrass, Switchgrass, Chewings fescue) and leaving untouched the smaller offsite, downslope erosion gullies in order to preserve existing vegetation. Finally, knowledge of the sites' parent material produced an excellent site specific resoiling plan, which required the incorporation of composted yard waste into the graded resoiling material.

ODNR provided the obvious benefit of funding and contracting of the construction work, which produced substantial cost savings. Engineering experience and design oversight by an ODNR professional engineer, when incorporated with NPS design concepts produced a hybrid design of superior quality. ODNR provided full-time project inspection with the obvious benefits. Finally, the use of State-funded AML monies enabled the procurement of a Federal match, which is in the process of being used for further reclamation.

## **OBSTACLES TO PARTNERING**

Obstacles to an interagency partnership often arise from the inherent inertia of the bureaucratic system. Bureaucratic intransigence can have benefits, but it can impede a novel concept like partnering. Existing policies, 'business as usual', can promote resistance to change. Philosophical and procedural differences between disparate agencies can create stasis. Disputes over funding sources ("Who's paying for this?") can produce roadblocks. Finally, the key parties involved in the partnership can lose their enthusiasm while overcoming the many hurdles placed in their path.

## **PARTNERING STRATEGIES**

Some of the above or, perhaps, other obstacles will almost certainly present themselves at some point along the continuum from vision to completed project. The strategies that can be used will be as variable as the obstacles and will often depend on the personalities of the involved parties.

Perhaps the most important strategy is perseverance, staying with the overall objective. When a manager presents objections, ask for an explanation. Persistence in obtaining a logical rationale for the initial denial will often initiate the thought process and produce some positive feedback. If the initial contact person remains negative, consider obtaining other opinions. Approach someone else in the agency with the project idea to build up support.

Sell resistant managers on the project. When success looms on the horizon, even the most reluctant manager can be convinced to take up the gauntlet and fight for his or her 'idea'. A manager who has bought into an idea can be an important ally.

Finally, one needs to stay resilient during the conceptual phases of any partnering project. Maintain an open mind and be empathetic toward the other partnership stakeholders' points of view regarding reclamation concepts. No two agencies do everything the same way. Being aware

of these conceptual differences and adjusting to others' ideas in a positive and open manner will go a long way to producing a successful and, oftentimes, superior product.

## **SUMMARY**

A final accounting of the pros and cons involved in an interagency partnership can be an important predictive tool with regard to the ultimate success or failure of the venture. If the obstacles greatly outweigh the advantages, rethink attempting the project; it will likely waste a great deal of time and resources with little or no resolution and probably fail. However, if the pluses outweigh the minuses, go with the project. The rewards will be many.

A successful interagency partnership can be a wonderful thing. It creates positive feelings among all the participants, including the contractors. The partnership can generate positive economic accounting, i.e. more bang for the buck. The visibility of a successful project will generate positive feedback; partnering is a rare bird and the public will notice. Ultimately, a successful partnering project will engender more of the same, with more 'on the ground' reclamation getting accomplished.

## **REFERENCES**

- Cuyahoga Valley - Official Map and Guide*; 1995, Government Printing Office.
- Steensen, David L. 1998. *1998 GRD Annual Report - Abandoned Mineral Lands Reclamation Program*, <http://den2-s11.aqd.nps.gov/grd/geology/grd1998/2.htm>.
- Ohio Department of Natural Resources - Division of Mineral Resources Management. 2002. *AML Reclamation Programs*; <http://www.ohiodnr/mineral>.
- U.S. Army Corps of Engineers. 1982. *Cuyahoga River, Ohio Restoration Study Supplement Report to the Third Interim Preliminary Feasibility Report on Erosion and Sedimentation*; Government Printing Office.
- U.S. Army Corps of Engineers. op.cit.